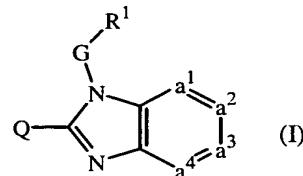


This listing of claims will replace all prior versions, and listings, of claims in the application.

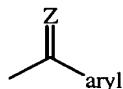
Listing of Claims:

1. (currently amended) ~~A method of manufacturing a medicament for the treatment of respiratory syncytial viral infections, comprising the step of admixing a pharmaceutically acceptable carrier and a compound of formula~~ **A method for treating respiratory syncytial viral infections, comprising the step of:**
administering to a patient in need of such treatment, a composition comprising an effective amount of a compound of formula I:



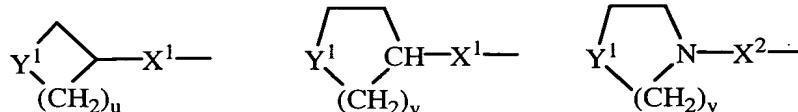
an addition salt or stereochemically isomeric form thereof,
wherein $-a^1=a^2-a^3=a^4$ represents a bivalent radical of formula
 $-CH=CH-CH=CH-$ (a-1);

wherein each hydrogen atom in the radical (a-1) may optionally be replaced by halo, C₁₋₆alkyl, nitro, amino, hydroxy, C₁₋₆alkyloxy, polyhaloC₁₋₆alkyl, carboxyl, aminoC₁₋₆alkyl, mono- or di(C₁₋₄alkyl)aminoC₁₋₆alkyl, C₁₋₆alkyloxycarbonyl, hydroxyC₁₋₆alkyl, or a radical of formula



wherein Z is O, CH-C(=O)-NR^{5a}R^{5b}, CH₂, CH-C₁₋₆alkyl, N-OH or N-O-C₁₋₆alkyl;

Q is a radical of formula



(b-4) , (b-5) or , (b-6) ;

wherein

Y^1 is a bivalent radical of formula $-NR^2-$ or $-CH(NR^2R^4)-$;

X^1 is NR^4 , S, $S(=O)$, $S(=O)_2$, O, CH_2 , $C(=O)$, $C(=CH_2)$, $CH(OH)$, $CH(CH_3)$, $CH(OCH_3)$, $CH(SCH_3)$, $CH(NR^{5a}R^{5b})$, CH_2-NR^4 or NR^4-CH_2 ;

X^2 is a direct bond, CH_2 , $C(=O)$, NR^4 , C_{1-4} alkyl- NR^4 , NR^4-C_{1-4} alkyl;

u is 2 or 3;

v is 2; and

whereby each hydrogen atom in the carbocycles and the heterocycles defined in radicals (b-4), (b-5), and (b-6) may optionally be replaced by R^3 ; with the proviso that when R^3 is hydroxy or C_{1-6} alkyloxy, then R^3 can not replace a hydrogen atom in the α position relative to a nitrogen atom;

G is a direct bond or C_{1-10} alkanediyl;

R^1 is a monocyclic heterocycle selected from piperidinyl, piperazinyl, pyridyl, pyrazinyl, pyridazinyl, pyrimidinyl, pyrrolyl, furanyl, tetrahydrofuranyl, thienyl, oxazolyl, thiazolyl, imidazolyl, pyrazolyl, isoxazolyl, oxadiazolyl, and isothiazolyl; and each heterocycle may optionally be substituted with 1 or where possible more substituents selected from halo, hydroxy, amino, cyano, carboxy, C_{1-6} alkyl, C_{1-6} alkyloxy, C_{1-6} alkylthio, C_{1-6} alkyloxy C_{1-6} alkyl, aryl, aryl C_{1-6} alkyl, aryl C_{1-6} alkyloxy, hydroxy C_{1-6} alkyl, mono-or di(C_{1-6} alkyl)amino, mono-or di(C_{1-6} alkyl)amino C_{1-6} alkyl, polyhalo C_{1-6} alkyl, C_{1-6} alkylcarbonyl amino, C_{1-6} alkyl- $SO_2-NR^{5c}-$, aryl- $SO_2-NR^{5c}-$, C_{1-6} alkyloxycarbonyl, $-C(=O)-NR^{5c}R^{5d}$, $HO(-CH_2-CH_2-O)_n-$, halo($-CH_2-CH_2-O)_n-$, C_{1-6} alkyloxy($-CH_2-CH_2-O)_n-$, aryl C_{1-6} alkyloxy($-CH_2-CH_2-O)_n-$ and mono-or di(C_{1-6} alkyl)amino($-CH_2-CH_2-O)_n-$;

each n independently is 1, 2, 3 or 4;

R^2 is hydrogen, formyl, C_{1-6} alkylcarbonyl, Hetcarbonyl, pyrrolidinyl, piperidinyl, homopiperidinyl, C_{3-7} cycloalkyl substituted with $N(R^6)_2$, or C_{1-10} alkyl substituted with $N(R^6)_2$ and optionally with a second, third or fourth substituent selected from amino, hydroxy, C_{3-7} cycloalkyl, C_{2-5} alkanediyl, piperidinyl, mono- or di(C_{1-6} alkyl)amino,

C_{1-6} alkyloxycarbonylamino, aryl and aryloxy;

R^3 is hydrogen, hydroxy, C_{1-6} alkyl, C_{1-6} alkyloxy, aryl C_{1-6} alkyl or aryl C_{1-6} alkyloxy;

R^4 is hydrogen, C_{1-6} alkyl or aryl C_{1-6} alkyl;

R^{5a} , R^{5b} , R^{5c} and R^{5d} each independently are hydrogen or C_{1-6} alkyl; or

R^{5a} and R^{5b} , or R^{5c} and R^{5d} taken together form a bivalent radical of formula $-(CH_2)_s-$ wherein s is 4 or 5;

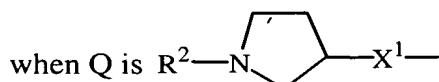
R^6 is hydrogen, C_{1-4} alkyl, formyl, hydroxy C_{1-6} alkyl, C_{1-6} alkylcarbonyl or C_{1-6} alkyloxycarbonyl;

aryl is phenyl or phenyl substituted with 1 or more substituents selected from halo, hydroxy, C_{1-6} alkyl, hydroxy C_{1-6} alkyl, polyhalo C_{1-6} alkyl, and C_{1-6} alkyloxy; and

Het is pyridyl, pyrimidinyl, pyrazinyl, or pyridazinyl;

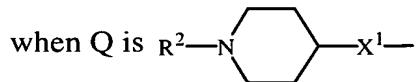
2. (cancelled)

3. (currently amended) A method of treating a respiratory syncytial viral infection according to claim 10, A compound as claimed in claim 2, wherein:



wherein X^1 is NR^4 , O, S, $S(=O)$, $S(=O)_2$, CH_2 , $C(=O)$, $C(=CH_2)$ or $CH(CH_3)$, then R^1 is other than pyridyl, pyridyl substituted with C_{1-6} alkyl, pyrimidinyl, pyrazinyl, imidazolyl and imidazolyl substituted with C_{1-6} alkyl.

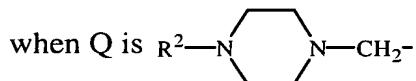
4. (currently amended) A method of treating a respiratory syncytial viral infection according to claim 10, A compound as claimed in claim 2, wherein:



wherein X^1 is NR^4 , O, S, $S(=O)$, $S(=O)_2$, CH_2 , $C(=O)$, $C(=CH_2)$ or $CH(CH_3)$, then R^1 is other than pyridyl, pyridyl substituted with C_{1-6} alkyl, pyridyl substituted with 1 or 2 C_{1-6} alkyloxy, pyrazinyl, pyrrolyl, pyrrolyl substituted with C_{1-6} alkyl, imidazolyl and imidazolyl substituted with C_{1-6} alkyl.

5. (cancelled)

6. (currently amended) A method of treating a respiratory syncytial viral infection according to claim 10, A compound as claimed in claim 2, wherein:



then R^1 is other than pyridyl, pyrimidinyl, pyrazinyl, imidazolyl and imidazolyl substituted with C_{1-6} alkyl.

7. (cancelled)

8. (currently amended) A method of treating a respiratory syncytial viral infection according to claim 10, A compound, wherein the compound is:

(\pm) -2-[[2-[[1-(2-amino-3-methylbutyl)-4-piperidinyl]amino]-7-methyl-1H-benzimidazol-1-yl]methyl]-6-methyl-3-pyridinol tetrahydrochloride monohydrate;
2-[[2-[[1-(2-aminoethyl)-4-piperidinyl]amino]-1H-benzimidazol-1-yl]methyl]-3-pyridinol;
 (\pm) -N-[1-(2-amino-3-methylbutyl)-4-piperidinyl]-6-chloro-1-[(1,4-dimethyl-1H-imidazol-5-yl)methyl]-1H-benzimidazol-2-amine monohydrate;

(\pm)-N-[1-(2-amino-3-methylbutyl)-4-piperidinyl]-6-chloro-1-[(6-methyl-2-pyridinyl)methyl]-1H-benzimidazol-2-amine;
N-[1-(2-aminoethyl)-4-piperidinyl]-1-[[3-(2-ethoxyethoxy)-6-methyl-2-pyridinyl]methyl]-1H-benzimidazol-2-amine tetrahydrochloride dihydrate;
(\pm)-N-[1-(2-amino-3-methylbutyl)-4-piperidinyl]-1-[(2-chloro-1,4-dimethyl-1H-imidazol-5-yl)methyl]-1H-benzimidazol-2-amine;
(\pm)-N-[1-(2-amino-3-methylbutyl)-4-piperidinyl]-6-chloro-1-[(2-chloro-1,4-dimethyl-1H-imidazol-5-yl)methyl]-1H-benzimidazol-2-amine;
(\pm)-N-[1-(2-amino-3-methylbutyl)-4-piperidinyl]-6-methyl-1-[(6-methyl-2-pyridinyl)methyl]-1H-benzimidazol-2-amine;
(\pm)-N-[1-(2-aminopropyl)-4-piperidinyl]-1-[(3,5,6-trimethylpyrazinyl)methyl]-1H-benzimidazol-2-amine tetrahydrochloride trihydrate;
(\pm)-N-[1-(2-amino-3-methylbutyl)-4-piperidinyl]-1-[(3,5,6-trimethylpyrazinyl)methyl]-1H-benzimidazol-2-amine;
N-[1-(2-aminoethyl)-4-piperidinyl]-1-[[3-(2-chloroethoxy)-6-methyl-2-pyridinyl]methyl]-1H-benzimidazol-2-amine trihydrochloride dihydrate;
(\pm)-N-[1-(2-amino-3-methylbutyl)-4-piperidinyl]-1-[(3-amino-2-pyridinyl)methyl]-1H-benzimidazol-2-amine tetrahydrochloride trihydrate;
2-[[2-[[1-(2-aminoethyl)-4-piperidinyl]amino]-4-methyl-1H-benzimidazol-1-yl]methyl]-6-methyl-3-pyridinol tetrahydrochloride;
2-[[2-[[1-(2-aminoethyl)-4-piperidinyl]amino]-6-chloro-4-methyl-1H-benzimidazol-1-yl]methyl]-6-methyl-3-pyridinol tetrahydrochloride 2-propanolate (1:1);
(\pm)-2-[[2-[[1-(2-amino-3-methylbutyl)-4-piperidinyl]amino]-4-methyl-1H-benzimidazol-1-yl]methyl]-6-methyl-3-pyridinol;
(\pm)-2-[[2-[[1-(2-aminopropyl)-4-piperidinyl]amino]-4-methyl-1H-benzimidazol-1-yl]methyl]-6-methyl-3-pyridinol tetrahydrochloride trihydrate;
2-[[2-[[1-(2-aminoethyl)-4-piperidinyl]amino]-7-methyl-1H-benzimidazol-1-yl]methyl]-6-methyl-3-pyridinol tetrahydrochloride dihydrate;

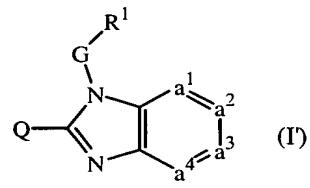
2-[[2-[[1-(2-aminoethyl)-4-piperidinyl]amino]-6-bromo-4-methyl-1H-benzimidazol-1-yl]methyl]-6-methyl-3-pyridinol tetrahydrochloride;
2-[[2-[[1-(2-aminoethyl)-4-piperidinyl]amino]-1H-benzimidazol-1-yl]methyl]-6-methyl-3-pyridinol tetrahydrochloride monohydrate;
(\pm)-2-[[2-[[1-(2-amino-3-methylbutyl)-4-piperidinyl]amino]-1H-benzimidazol-1-yl]methyl]-6-methyl-3-pyridinol;
(\pm)-N-[1-(2-amino-3-methylbutyl)-4-piperidinyl]-4-methyl-1-[(6-methyl-2-pyridinyl)methyl]-1H-benzimidazol-2-amine; **or**
an addition salt or stereochemically isomeric form thereof.

9. (*currently amended*) A method of treating a respiratory syncytial viral infection according to claim 10, A compound, wherein the compound is:

2-[[2-[[1-(2-aminoethyl)-4-piperidinyl]amino]-5-chloro-7-methyl-1H-benzimidazol-1-yl]methyl]-6-methyl-3-pyridinol tetrahydrochloride tetrahydrate;
N-[1-(2-aminoethyl)-4-piperidinyl]-1-[(2,4-dimethyl-5-oxazolyl)methyl]-1H-benzimidazol-2-amine;
N-[1-(2-aminoethyl)-4-piperidinyl]-1-[(2,5-dimethyl-4-oxazolyl)methyl]-1H-benzimidazol-2-amine trihydrochloride monohydrate;
N-[1-(2-aminoethyl)-4-piperidinyl]-1-[(5-methyl-3-isoxazolyl)methyl]-1H-benzimidazol-2-amine trihydrochloride monohydrate;
N-[1-(2-aminoethyl)-4-piperidinyl]-1-[(2-methyl-5-oxazolyl)methyl]-1H-benzimidazol-2-amine monohydrate;
N-[1-(2-aminoethyl)-4-piperidinyl]-1-[(2-methyl-5-oxazolyl)methyl]-1H-benzimidazol-2-amine trihydrochloride monohydrate;
N-[1-(2-aminoethyl)-4-piperidinyl]-1-(4-thiazolylmethyl)-1H-benzimidazol-2-amine;
N-[1-(2-aminoethyl)-4-piperidinyl]-1-[(5-phenyl-1,2,4-oxadiazol-3-yl)methyl]-1H-benzimidazol-2-amine trihydrochloride;
5-[[2-[[1-(2-aminoethyl)-4-piperidinyl]amino]-1H-benzimidazol-1-yl]methyl]-2-oxazolemethanol tetrahydrochloride dihydrate;

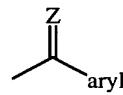
N-[1-(2-aminoethyl)-4-piperidinyl]-1-[(3-methyl-5-isoxazolyl)methyl]-1H-benzimidazol-2-amine trihydrochloride monohydrate;
4-[[1-[[2-(dimethylamino)-4-thiazolyl]methyl]-1H-benzimidazol-2-yl]methyl]-1-piperidineethanamine tetrahydrochloride monohydrate 2-propanolate (1:1);
ethyl 5-[[2-[[1-[[2-[(1,1-dimethylethoxy)carbonyl]amino]ethyl]-4-piperidinyl]amino]-1H-benzimidazol-1-yl]methyl]-2-methyl-4-oxazolecarboxylate;
4-[[1-[(2-methyl-4-thiazolyl)methyl]-1H-benzimidazol-2-yl]methyl]-1-piperidineethanamine;
N-[1-(2-aminoethyl)-4-piperidinyl]-1-[(2-methyl-3-furanyl)methyl]-1H-benzimidazol-2-amine;
1,1-dimethylethyl 4-[[1-[[3-[2-(dimethylamino)ethoxy]]-6-methyl-2-pyridinyl]methyl]-1H-benzimidazol-2-yl]amino-1-piperidinecarboxylate;
ethyl 4-[[1-[(3-amino-2-pyridinyl)methyl]-1H-benzimidazol-2-yl]amino]-1-piperidinecarboxylate;
N-[1-(6-methyl-2-pyridinyl)-1H-benzimidazol-2-yl]-1-(3-pyridinylcarbonyl)-4-piperidinamine; **or**
an addition salt or stereochemically isomeric form thereof.

10. (*currently amended*) A method of treating a respiratory syncytial viral infection, comprising the step of administering a therapeutically effective amount of said compound **according to any one of claims 2 to 4, 6, 8 to 9 of formula (I'):**



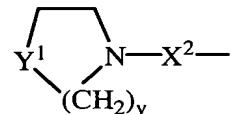
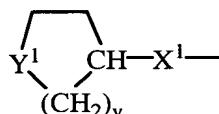
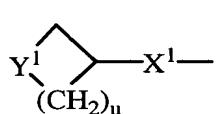
an addition salt, or stereochemically isomeric form thereof,
wherein -a¹=a²-a³=a⁴- represents a radical of formula
-CH=CH-CH=CH- (a-1);

wherein each hydrogen atom in the radicals (a-1) may optionally be replaced by halo, C₁₋₆alkyl, nitro, amino, hydroxy, C₁₋₆alkyloxy, polyhaloC₁₋₆alkyl, carboxyl, aminoC₁₋₆alkyl, mono- or di(C₁₋₄alkyl)aminoC₁₋₆alkyl, C₁₋₆alkyloxycarbonyl, hydroxyC₁₋₆alkyl, or a radical of formula



wherein Z is O, CH-C(=O)-NR^{5a}R^{5b}, CH₂, CH-C₁₋₆alkyl, N-OH or N-O-C₁₋₆alkyl;

Q is a radical of formula



(b-4)

, (b-5)

or, (b-6)

;

wherein

Y^1 is a bivalent radical of formula -NR²- or -CH(NR²R⁴)-;

X^1 is NR⁴, S, S(=O), S(=O)₂, O, CH₂, C(=O), C(=CH₂), CH(OH), CH(CH₃), CH(OCH₃), CH(SCH₃), CH(NR^{5a}R^{5b}), CH₂-NR⁴ or NR⁴-CH₂;

X^2 is a direct bond, CH₂, C(=O), NR⁴, C₁₋₄alkyl-NR⁴, NR⁴-C₁₋₄alkyl;

u is 2 or 3;

v is 2; and

whereby each hydrogen atom in the carbocycles and the heterocycles defined in radicals (b-4), (b-5), and (b-6) may optionally be replaced by R³; with the proviso that when R³ is hydroxy or C₁₋₆alkyloxy, then R³ can not replace a hydrogen atom in the α position relative to a nitrogen atom;

G is a direct bond or C₁₋₁₀alkanediyl;

R¹ is a monocyclic heterocycle selected from pyridyl, pyrazinyl, pyridazinyl, pyrimidinyl, pyrrolyl, imidazolyl and pyrazolyl; and each heterocycle may optionally be substituted with 1 or where possible more

substituents selected from halo, hydroxy, amino, cyano, carboxy, C₁₋₆alkyl, C₁₋₆alkyloxy, C₁₋₆alkylthio, C₁₋₆alkyloxyC₁₋₆alkyl, aryl, arylC₁₋₆alkyl, arylC₁₋₆alkyloxy, hydroxyC₁₋₆alkyl, mono-or di(C₁₋₆alkyl)amino, mono-or di(C₁₋₆alkyl)aminoC₁₋₆alkyl, polyhaloC₁₋₆alkyl, C₁₋₆alkylcarbonylamino, C₁₋₆alkyl-SO₂-NR^{5c}-, aryl-SO₂-NR^{5c}-, C₁₋₆alkyloxycarbonyl, -C(=O)-NR^{5c}R^{5d}, HO(-CH₂-CH₂-O)_n-, halo(-CH₂-CH₂-O)_n-, C₁₋₆alkyloxy(-CH₂-CH₂-O)_n-, arylC₁₋₆alkyloxy(-CH₂-CH₂-O)_n- and mono-or di(C₁₋₆alkyl)amino(-CH₂-CH₂-O)_n-;

each n independently is 1, 2, 3 or 4;

R² is hydrogen, formyl, pyrrolidinyl, piperidinyl, homopiperidinyl, C₃₋₇cycloalkyl substituted with N(R⁶)₂, or C₁₋₁₀alkyl substituted with N(R⁶)₂ and optionally with a second, third or fourth substituent selected from amino, hydroxy, C₃₋₇cycloalkyl, C₂₋₅alkanediyl, piperidinyl, mono-or di(C₁₋₆alkyl)amino, C₁₋₆alkyloxycarbonylamino, aryl and aryloxy;

R³ is hydrogen, hydroxy, C₁₋₆alkyl, C₁₋₆alkyloxy, arylC₁₋₆alkyl or arylC₁₋₆alkyloxy;

R⁴ is hydrogen, C₁₋₆alkyl or arylC₁₋₆alkyl;

R^{5a}, R^{5b}, R^{5c} and R^{5d} each independently are hydrogen or C₁₋₆alkyl; or

R^{5a} and R^{5b}, or R^{5c} and R^{5d} taken together form a bivalent radical of formula -(CH₂)_s- wherein s is 4 or 5;

R⁶ is hydrogen, C₁₋₄alkyl, formyl, hydroxyC₁₋₆alkyl, C₁₋₆alkylcarbonyl or C₁₋₆alkyloxycarbonyl;

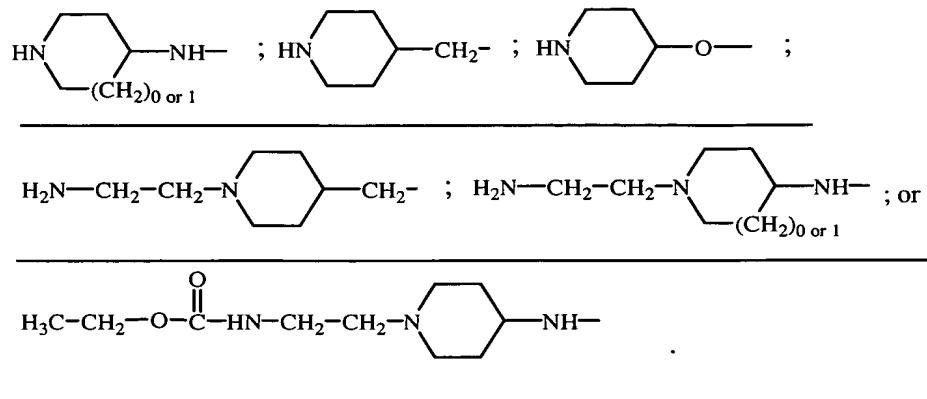
aryl is phenyl or phenyl substituted with 1 or more substituents selected from halo, hydroxy, C₁₋₆alkyl, hydroxyC₁₋₆alkyl, polyhaloC₁₋₆alkyl, and C₁₋₆alkyloxy;

provided:

that when G is methylene, and R¹ is 2-pyridyl, 3-pyridyl, 6-methyl-2-pyridyl, 2-pyrazinyl or 5-methyl-imidazol-4-yl, then Q is other than

DOCKET NO.: JANS-0027/JAB1498 US
Application No.: 10/030,202
Office Action Dated: October 20, 2004

PATENT



Claims 11 to 22 (*cancelled*)